

**REMARKS**

Claims 1-16 are pending.

**Response to Claim Rejections Under 35 U.S.C. § 103**

(I) Claims 1-12, 15 and 16 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over JP 2003253051 to Nakagawa et al. Applicants respectfully traverse.

The present claims are directed to a rubber composition characterized by containing 5-60 parts by mass of an aromatic vinyl compound-diene compound copolymer (B) having a weight average molecular weight of more than 50,000 but not more than 300,000 (conversion to polystyrene through gel permeation chromatography) based on 100 parts by mass of a rubber component (A) comprising at least one rubber of natural rubber and synthetic diene-based rubbers in which the copolymer (B) comprises 5-80 mass% of the aromatic vinyl compound and a vinyl bond content in diene compound portion is 10-80 mass%.

Nakagawa discloses a rubber composition comprising (A) 100 parts by mass of a styrene-butadiene copolymer having a weight average molecular weight of 400,000 to 3,000,000 and (B) 10-200 parts by mass of a styrene-butadiene copolymer having a weight average molecular weight of 5,000 to 200,000 and a bound styrene content of 25-70% by mass, wherein not less than 60% of a double bond in a butadiene portion of the styrene-butadiene copolymer (B) is hydrogenated.

The double bond in the butadiene portion of the styrene-butadiene copolymer of Nakagawa includes a cis-1,4 bond, a trans-1,4 bond and a vinyl bond. When not less than 60% of the double bond in the butadiene portion of the styrene-butadiene copolymer is hydrogenated, all of the remaining unhydrogenated double bonds are not vinyl bonds. Applicant notes that the

hydrogenation reaction mainly occurs at the vinyl bond. Thus, almost all the vinyl bonds in the styrene-butadiene copolymer (B) in Nakagawa are hydrogenated when the hydrogenation ratio of the double bond in the butadiene portion is 60% or more, and the styrene-butadiene copolymer (B) in Nakagawa has a vinyl bond content of about 0%.

In support, Applicants submit herewith a Declaration under 37 C.F.R. §1.132 by Mr. Matsuo, demonstrating that even when 44% of the double bonds in the butadiene portions of the styrene-butadiene copolymer are hydrogenated, the resulting partially hydrogenated styrene-butadiene copolymer has a vinyl bond content of 0%. Thus, contrary to the Examiner's position, the styrene-butadiene copolymer (B) taught by Nakagawa, wherein not less than 60% of a double bond in a butadiene portion thereof is hydrogenated, has a vinyl bond content of about 0%.

Thus, the presently claimed aromatic vinyl compound-diene compound copolymer (B) having a vinyl bond content in diene compound portion of 10-80 mass% is unobvious in view of Nakagawa. Accordingly, Nakagawa fails to render obvious the present claims. Withdrawal of the rejection is respectfully requested.

(II) Claims 1, 2, 5-9 and 13-16 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 4,866,131 to Fujimaki et al. Applicants respectfully traverse.

According to the present claims, the aromatic vinyl compound-diene compound copolymer (B) has a weight average molecular weight of more than 50,000 but not more than 300,000.

Fujimaki discloses a low molecular weight copolymer having a molecular weight of 2,000 to 50,000. Further, Fujimaki discloses that if the molecular weight of the copolymer is above 50,000, the resultant rubber composition does not sufficiently augment the hysteresis loss value, and thus does not augment the road gripping ability. Therefore, Fujimaki teaches away from the aromatic vinyl compound-diene compound copolymer (B) having a weight average molecular weight of more than 50,000.

In addition, an object of Fujimaki is to provide a rubber composition having a large hysteresis loss value. *See*, col. 1, lines 42-45. In this regard, Fujimaki discloses that a low molecular weight copolymer having a molecular weight of 2,000 to 50,000 is to be used in order to achieve the desired hysteresis loss value. Therefore, Fujimaki provides no motivation to one skilled in the art for using an aromatic vinyl compound-diene compound copolymer having a weight average molecular weight of more than 50,000 but not more than 300,000, as presently claimed.

Thus, Fujimaki fails to render obvious the present claims. Accordingly, withdrawal of the rejection is respectfully requested.

(III) Claims 10-12 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujimaki, as applied to claim 1 above, and further in view of U.S. Patent No. 5,500,482 to Muraki et al. Applicants respectfully traverse.

Muraki fails to make up for the deficiencies of Fujimaki discussed above. Accordingly, Claims 10-12 are patentable at least by virtue of their dependence from Claim 1. Withdrawal of the rejection is respectfully requested.

**Response to Double Patenting Rejections**

(I) Claims 1-16 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of copending Application No. 11/908,462 (published as U.S. Patent Application No. 2009/0054549).

Since the above rejection is provisional, Applicants elect to defer addressing the merits of this provisional rejection.

Furthermore, in accordance with MPEP 804(I)(B)(1), Applicants respectfully request that if the present provisional nonstatutory obviousness-type double patenting rejection is the only rejection remaining in the present application, which is the earlier filed of the two pending applications, the provisional nonstatutory obviousness-type double patenting rejection be withdrawn and the present application be issued as a patent without a terminal disclaimer.

(II) Claims 1-16 provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14 and 20 of copending Application No. 11/817,573 (published as U.S. Patent Application No. 2008/0289740).

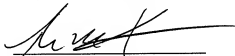
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In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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**23373**

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